CW#79H: Factoring Special Cases

Honors Geometry

February 9th, 2016

*Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PD:\_\_\_\_\_\_*

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| Squares of binomials have the form or . | |
| 1. Consider the binomial . FOIL this binomial. | 1. Consider the binomial . FOIL this binomial. |
| 1. What do you notice about the squares of these binomials? What pattern do they follow?   🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
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| ***Try solving the problems below WITHOUT using FOIL. Use the rules you came up with in #s 3 and 6.*** | |
| 1. What is a simpler form of ? | 1. What is a simpler form of ? |
| 1. Simplify: | 1. Simplify: |
| 1. Imagine a shaded square with sides equal to . Inside the shaded square is a smaller square with sides equal to . Find an expression to represent the area of just the shaded square. Draw a labeled picture of this situation before solving. | |
| 1. A square outdoor patio is surrounded on all four sides by a brick walkway that is 3 feet wide. The square outdoor patio plus the brick walkway can be represented by . What is the area of the brick walkway? Draw a labeled picture before solving this problem. | |
| 1. The product of the sum and difference of the same two terms also produces a pattern. Consider . FOIL these two binomials and note what pattern you see.   🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| 1. Simplify: | 1. Simplify: |
| 1. Simplify: | 1. Simplify: |
| 1. Simplify: | 1. Simplify: |
| 1. Simplify: | 1. Simplify: |
| 1. A company logo is a white square inside a red square. The side length of the white square is . The side length of the red square is three times the side length of the white square. What is the area of the red part of the logo? Draw a labeled picture and represent your answer in standard form. | |
| ***You can factor special cases (or perfect-square trinomials) by “reversing” the rules you derived above. For example, the trinomial can be factored into . Additionally, the trinomial can be factored into .***   1. What pattern do you notice about perfect-square trinomials?   🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| 1. What is the factored form of ? | 1. What is the factored form of ? |
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| 1. What is the factored form of ? | 1. What is the factored form of ? |
| 1. What is the side length of a square with an area of ? | 1. What is the side length of a square with an area of ? |
| 1. A square rug has an area of and a second square rug has an area of . What is an expression that represents the difference of the areas of these rugs? Show to different ways to find the solution. | |